

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Alexandria Seed Company, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *seventeen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS SPECIFIED BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

RICE

'Bellevue'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington this 21st day of December in the year of our Lord one thousand nine hundred and seventy-eight

Attest:

Samuel K. Lusk

Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

Bob Dwyer
Secretary of Agriculture



UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, POULTRY, GRAIN & SEED DIVISION

FORM APPROVED
OMB NO. 40-R3822

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

No certificate for plant variety protection may be issued unless a completed application form has been received (5 U.S.C. 553).

INSTRUCTIONS: See Reverse.

1a. TEMPORARY DESIGNATION OF VARIETY AS1010E		1b. VARIETY NAME BELLEVUE		FOR OFFICIAL USE ONLY PV NUMBER 7800076	
2. KIND NAME Rice		3. GENUS AND SPECIES NAME Oryza Sativa		FILING DATE 5-30-78	TIME 11:00 A.M.
4. FAMILY NAME (BOTANICAL) Graminae		5. DATE OF DETERMINATION (1) 1974 (2) 1977		FEE RECEIVED \$ 500.00 \$ 250.00	DATE 5-30-78 10-10-78
6. NAME OF APPLICANT(S) ALEXANDRIA SEED CO., INC.		7. ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) 2510 Broadway Alexandria, Louisiana 71301		8. TELEPHONE AREA CODE AND NUMBER 318-443-2511	
9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: (Corporation, partnership, association, etc.) Corporation		10. IF INCORPORATED, GIVE STATE AND DATE OF INCORPORATION Louisiana		11. DATE OF INCORPORATION May 31, 1949	
12. NAME AND MAILING ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS: John H. Cade, Jr., President P.O. Box 1830 Alexandria, Louisiana 71301 STAN ROLLIN per letter P.O. Box 821 Beltsville, MD 7/11/78					
13. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED: <input checked="" type="checkbox"/> 13A. Exhibit A, Origin and Breeding History of the Variety (See Section 52 of the Plant Variety Protection Act.) <input checked="" type="checkbox"/> 13B. Exhibit B, Novelty Statement. <input checked="" type="checkbox"/> 13C. Exhibit C, Objective Description of the Variety (Request form from Plant Variety Protection Office.) <input checked="" type="checkbox"/> 13D. Exhibit D, Additional Description of the Variety.					
14a. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See Section 83(a). (If "Yes," answer 14B and 14C below.) <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO					
14b. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		14c. IF "YES," TO 14B, HOW MANY GENERATIONS OF PRODUCTION BEYOND BREEDER SEED? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input checked="" type="checkbox"/> CERTIFIED			
15a. DID THE APPLICANT(S) FILE FOR PROTECTION OF THIS VARIETY IN OTHER COUNTRIES? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO (If "Yes," give name of countries and dates.)					
15b. HAVE RIGHTS BEEN GRANTED THIS VARIETY IN OTHER COUNTRIES? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO (If "Yes," give name of countries and dates.)					

16. DOES THE APPLICANT(S) AGREE TO THE PUBLICATION OF HIS/HER (THEIR) NAME(S) AND ADDRESS IN THE OFFICIAL JOURNAL? ☒ YES ☐ NO

17. The applicant(s) declare(s) that a viable sample of basic seed of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

May 17, 1978

(DATE)

(SIGNATURE OF APPLICANT)

1

(DATE)

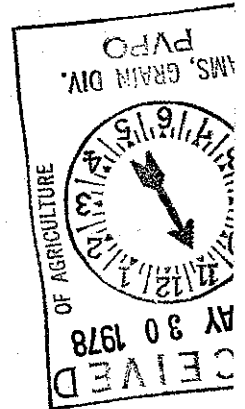
(SIGNATURE OF APPLICANT)

INSTRUCTIONS

GENERAL: Send an original copy of the application and exhibits, at least 2,500 viable seeds, and \$500 fee (\$250 filing fee and \$250 examination fee) to U.S. Dept. of Agriculture, Agricultural Marketing Service, Livestock, Poultry, Grain and Seed Division, Plant Variety Protection Office, National Agricultural Library Building, Beltsville, Maryland 20705. (See section 180.175 of the Regulations and Rules of Practice.) Retain one copy for your files. All items on the face of the form are self-explanatory unless noted below.

ITEM

- 5 Give the date the applicant determined that he had a new variety based on (1) the definition in section 41(a) of the Act and (2) the date a decision was made to increase the seed.
- 13a Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method; (2) the details of subsequent stages of selection and multiplication; (3) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified and (4) evidence of uniformity and stability.
- 13b Give a summary statement of the variety's novelty. Clearly state how this novel variety may be distinguished from all other varieties in the same crop. If the new variety most closely resembles one or a group of related varieties: (1) identify these varieties and state all differences objectively; (2) attach statistical data for characters expressed numerically and demonstrate that these differences are significant; and (3) submit, if helpful, seed and plant specimens or photographs of seed and plant comparisons clearly indicating novelty.
- 13c Fill in the Exhibit C, Objective Description form, for all characteristics for which you have adequate data.
- 13d Describe any additional characteristics that are not described, or whose description cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the description of characteristics that are difficult to describe, such as, plant habit, plant color, disease resistance, etc.
- 14a If "YES" is specified (seed of this variety be sold by variety name only as a class of certified seed) the applicant may NOT reverse his affirmative decision after the variety has either been sold and so labeled, his decision published, or the certificate has been issued. However, if the applicant specified "NO," he may change his choice. (See section 180.16 of the Regulations and Rules of Practice.)
- 15a See section 42 of the Plant Variety Protection Act and section 180.7 of the Regulations and Rules of Practice.



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EXHIBIT A

1. AS1010-E (Bellevue) was selected from AS1010 as will be described below. AS1010, the designation of which has been changed to AS1010-L, was selected (S6332-1-23-4-7-0-0-0) from the F7 generation of the cross Bluebonnet 50 X Gulfrose made in Alexandria in 1962. Bluebonnet 50 was the standard quality long grain rice variety for many years. Gulfrose was a medium grain variety released in 1959 primarily because of resistance to the virus disease hoja blanca. The pedigree method of selection was used on AS1010 up to the F4 generation followed by another three generations of bulk selection and yield testing began in 1970.
2. In 1971, a plant segregating from AS1010 for earlier heading and shorter plant height was isolated. This was planted head-to-row in the next two generations for purification and increase. It was given the designation AS1010-E because of earliness while the parent AS1010 was given the designation AS1010-L to signify the later maturing version. The breeding work done on AS1010-E (Bellevue) after its isolation was head-to-row purification and yield testing. Yield testing began in 1974. The decision was made in the spring of 1977 to increase AS1010-E (Bellevue) and release it as a variety instead of AS1010-L if 1977 test results at Alexandria, and at experiment stations to which seed had been sent, confirmed the merit, the stability, and the reproducibility of the variety. They did.
3. No variants or segregants are found during reproduction and multiplication of AS1010-E (Bellevue).
4. Since its isolation in 1971, AS1010-E (Bellevue) has bred true and shown stability and uniformity. It has been in more than 15 yield tests in Alexandria Seed Company's nursery, and five yield tests in experiment stations. In 1977, 250 pounds of head-row seed was increased on three and one-half acres to produce 9500 pounds of Breeder seed. 1150 pounds of head-row seed (Elite) was produced on head-row block of approximately four-tenths of an acre. No variants were observed.

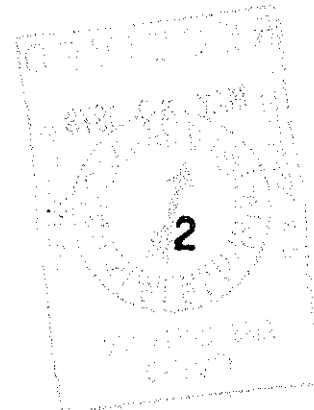


EXHIBIT B

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DATA INDICATIVE OF NOVELTY

AS1010-E (Bellevue) is distinguishable from all other rice varieties which we have seen in our nursery or have read about in publications by one or more physical characteristics.

The field is narrowed greatly by maturity and hull color. Among straw hulled, long grain varieties, Labelle, Lebonnet, and Belle Patna are very much earlier (about ten days). Dawn, Century Patna 231, and Bluebelle are much earlier and also gold hulled. Rexora is much later than AS1010-E and gold hulled. Bluebonnet 50 is about five days later and grows five to ten cms. taller than AS1010-E (Bellevue). Toro differs dramatically in cooking quality, having cooking characteristics of medium grain rices.

Those varieties remaining which most closely resemble AS1010-E (Bellevue) are Starbonnet and Bonnet 73. AS1010-E heads a few days later than these two varieties, but matures a few days earlier. The plant height of AS1010-E (Bellevue) averages two or three cms. taller than Starbonnet, and Starbonnet about the same amount taller than Bonnet 73. All are of intermediate plant habit. The differences on which novelty may be established are indicated in the table below:

	<u>AS1010E</u> <u>(BELLEVUE)</u>	<u>STARBONNET</u>	<u>BONNET 73</u>
Leaf Blade Length (cm.)	38	32	49
Leaf Blade Width (mm.)	14	13	12
Leaf Color	Medium Green	Dark Green	Dark Green
Flag Leaf Angle	Horizontal	Ascending	Ascending
Flag Leaf Length (cm.)	28	26	30
Flag Leaf Width (mm.)	13	12	12
Panicle Length (cm.)	25	22	25
Stigma Color	Red	Colorless	Purple
Awns	None	Terminal spikelet awned	Awn and awnless
Seed Coat Color	Medium	Light	Light
Grain Paddy Thickness (mm.)	20	17	18
Weight (gr.)	200	195	186

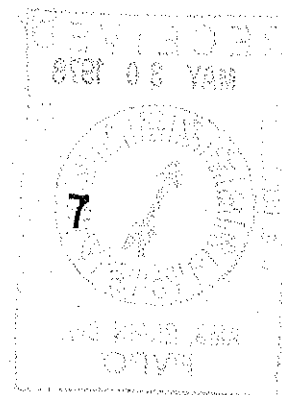
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Field notes of observations of these varieties by our Plant Breeder, Dr. A.G. Calub, in the summer of 1977, were as follows:

"One to two weeks before bloom, Bonnet 73 has a much narrower, darker green, more upright leaf, than AS1010-E. At this stage, about 60 percent of the leaves of AS1010-E tend to droop, giving the plant a more spreading appearance. The same difference is present with Starbonnet, although not quite as pronounced as with Bonnet 73. After heading, AS1010-E has definitely much more drooping leaves than Starbonnet and Bonnet 73. At maturity, most of the flag leaves of AS1010-E are horizontal, giving a more showy appearance to the panicle. In Starbonnet, the flag leaves are erect, somewhat hiding the panicle. Although 1010-E heads slightly later than Starbonnet and Bonnet 73, it is ready for harvest earlier and this leaf characteristic may make the difference."

Our observations also are that Bonnet 73 generally has lower milling yield of head rice than AS1010-E or Starbonnet.

In summary, our claim to being different from Starbonnet and Bonnet 73 is based on the leaf angle, the color of the leaves being lighter green, and the decidedly different stigma color.



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ALEXANDRIA SEED CO. YIELD TRIALS
OF AS1010-E (BELLEVUE) AND CHECKS, 1977

YIELDS, POUNDS PER ACRE

	EXPERIMENT NUMBERS (1)					AVERAGE
	301	203	101	105	107	
AS1010-E	5201.0	4539.5	4733.1	3922.4	4818.5	4642.9
Starbonnet	4815.0	3626.8	4161.7	3460.0	4417.7	4096.2
Bluebonnet 50	4463.7	3872.2	4004.2	3460.5	4147.5	3989.6
Labelle	3484.8	3050.4	2746.2	2522.7	3651.8	3271.2

MILLING YIELDS % HEAD/TOTAL

AS1010-E	62.3/70.2	56.8/70.5	59.8/71.5	59.5/71.3	59.3/72.2	59.5/71.1
Starbonnet	62.0/69.8	57.8/69.4	59.5/70.2	59.2/70.9	59.8/71.4	61.7/70.3
Bluebonnet 50	63.8/71.7	63.7/71.5	65.0/74.5	60.5/72.4	65.7/73.0	63.7/72.6
Labelle	47.2/69.4	31.0/68.9	42.6/71.0	46.8/70.1	61.9/71.6	45.9/70.2

PLANT HEIGHT (CROSS)

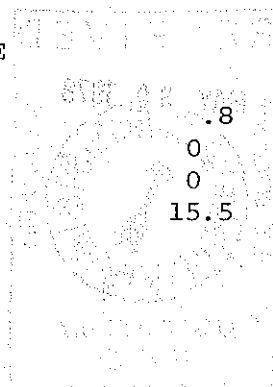
AS1010-E	100.8	92.5	103.5	100.5	97.8	99.0
Starbonnet	105.0	91.5	101.8	101.0	90.3	97.9
Bluebonnet 50	121.0	107.8	121.0	116.3	113.8	116.0
Labelle	89.3	80.8	87.8	88.0	89.3	87.0

DAYS TO HEADING

AS1010-E	102.8	103.5	102.8	106.5	104.0	104.0
Starbonnet	105.0	104.3	104.8	105.5	106.3	105.2
Bluebonnet 50	106.5	115.5	104.0	111.8	114.0	110.4
Labelle	87.5	93.5	87.8	88.0	94.5	90.3

PERCENT LODGE

AS1010-E	13.3	0	1.3	0.8	0	3.1
Starbonnet	2.5	1.3	0	0	0	7.6
Bluebonnet 50	0	0	0	0	0	0
Labelle	24.3	2.5	0	15.5	0	8.5

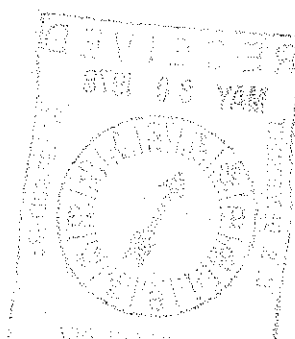


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	301	203	101	105	107	AVERAGE
ALKALI TEST (3.7% KOH)						
AS1010-E	2.6	2.7	2.8	2.6	2.8	2.7
Starbonnet	2.5	2.7	2.2	2.6	2.6	2.5
Bluebonnet 50	2.8	2.7	3.0	2.8	3.0	2.9
Labelle	2.8	2.6	2.5	2.5	2.5	2.6

AMYLOSE (3)						
AS1010-E	26.9	25.8	24.7	26.8	22.1	25.3
Starbonnet	26.2	23.2	24.4	23.4	22.7	24.0
Bluebonnet 50						
Labelle						

CHALK RATING (2)						
AS1010-E	1.3	2.0	1.8	1.8	1.3	1.6
Starbonnet	2.3	3.3	5.3	2.5	.5	2.8
Bluebonnet 50	0	0	0.5	0.5	0	.1
Labelle	2.8	1.5	1.8	2.8	3.0	2.4



(1) 301 is Uniform Yield Trial, 203 is Advanced Trial, and 101, 105 and 107 are Preliminary Trials. All figures are means of four replications.

(2) Chalk rating: 0 - Non-chalky, 9 - Very Chalky

(3) Means of two replications with four readings each replication.

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CUMULATIVE YIELD TEST OF AS1010-E AND CHECK VARIETIES
AT FOUR DIFFERENT LOCATIONS

YIELD, LBS./ACRE

	1974 ¹⁾	ALEXANDRIA LA 1975 ²⁾	1976 ²⁾	1977 ³⁾	Average	CROWLEY LA	STUTTGART ARK	BEAUMONT TX	STONEVILLE MS
AS1010-E	3368.9	3882.8	3484.9	4642.5	3844.8	5352.0	5440.0	4420.0	
Starbonnet	2839.0	2907.8	3014.4	4096.2	3214.4	4857.0	5804.0	3937.0	
Bluebonnet 50	3108.3	2631.5	2388.6	3994.5	3030.7				
Labelle	2484.9	2597.5	2527.1	3271.2	2720.2			5402.0	

MILLING YIELD % HEAD/TOTAL

AS1010-E	56/66	62/68	64/70	60/71	60/69	67/72	64/68	62/71	65/73
Starbonnet	54/66	64/68	63/69	62/70	61/68	63/71	66/70	58/71	65/73
Bluebonnet 50	65/70	62/68	64/70	64/73	64/70				
Labelle	64/70	49/69	55/69	46/70	53/70			63/71	

PLANT HEIGHT (CMS)

AS1010-E	102	103	97	99	100.2	109	113	138	114
Starbonnet	100	94	95	98	96.8	103	100	123	91
Bluebonnet 50	109	108	102	116	108.8				
Labelle	81	69	81	87	79.5			117	

DAYS TO HEADING

AS1010-E	117	105	120	104	112	89	97	95	94
Starbonnet	102	96	118	105	105	89	98	99	93
Bluebonnet 50	112	108	125	110	114				
Labelle	100	84	100	90	94			78	

CHALK RATING ⁴⁾

AS1010-E	1.2	1.0	1.0	1.6	1.2				
Starbonnet	1.5	1.2	1.0	2.8	1.6				
Bluebonnet 50	0.1	0	0.3	0.1	0.1				
Labelle	1.5	1.0	1.2	2.4	1.5				

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	ALEXANDRIA, LA				CROWLEY LA	STUTTGART ARK	BEAUMONT TX	STONEVILLE MS
	1974 ¹⁾	1975 ²⁾	1976 ²⁾	1977 ³⁾	Average			
	ALKALI TEST (1.7% KOH)							
AS1010-E	4.0	3.2	3.7	2.7	3.4			
Starbonnet	4.3	2.5	3.1	2.5	3.1			
Bluebonnet 50	4.4	2.9	3.7	2.9	3.5			
Labelle	3.2	2.7	3.4	2.6	3.0			
	AMYLOSE TEST							
AS1010-E	32.8		27.2	25.2	28.4			
Starbonnet	33.0		26.1	24.0	27.7			
Bluebonnet 50	29.0		26.4					
Labelle	30.3		27.0					

- 1) Average of one experiment with four replications.
- 2) Average of two experiments with four replications each.
- 3) Average of five experiments with four replications each.
- 4) 0 = Non-chalky, 9 = Very Chalky.

OBJECTIVE DESCRIPTION OF VARIETY
RICE (ORYZA SATIVA)

REFERENCES: See Reverse.

NAME OF APPLICANT(S)

ALEXANDRIA SEED CO., INC.

ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code)

2510 Broadway

Alexandria, Louisiana 71301

FOR OFFICIAL USE ONLY

PVPO NUMBER

7800076

VARIETY NAME OR TEMPORARY
DESIGNATION

BELLEVUE

TEMPORARY: AS1010-E

Place the appropriate number that describes the varietal character of this variety in the boxes below.

Place a zero in first box (e.g., 0 8 9) or 0 9) when number is either 99 or less or 9 or less.

1. MATURITY (Seeding to 50% Heading):

LOCATION Alexandria, LA

AVERAGE DATE SEEDED April 14

3

Season: 1 = VERY EARLY (85 days or less)
3 = MIDSEASON (101 - 115)2 = EARLY (86 - 100)
4 = LATE (115 - or more)

1 0 3

NUMBER OF DAYS

0 7

NO. OF DAYS EARLIER THAN ... 7

0 4

NO. OF DAYS LATER THAN ... 4

1 = BELLE PATNA

2 = BLUEBELLE

3 = NATO

4 = STARBONNET

5 = CALROSE

6 = REXORO

7 = Bluebonnet 50

2. PLANT HABIT (Tiller Angle from Perpendicular at the Early Jointing Stage):

2

1 = SPREADING (more than 60°)

2 = INTERMEDIATE

3 = ERECT (less than 30°)

3. STEMS (Full Heading):

1 0 0

CM. TALL (Soil level to tip of extended panicle on main culm)

1 7

CM. SHORTER THAN ... 7

0 3

CM. TALLER THAN ... 4

0 5

NUMBER OF NODES

1

INTERNODE COLOR (Outside)

2

SEPTUM COLOR (Inside Node)

1 = LIGHT YELLOW

2 = CREAM

3 = GOLD

4 = GREEN

5 = REDDISH

6 = LIGHT PURPLE

7 = PURPLE

8 = DARK PURPLE

9 = OTHER (Specify)

1

Tillering Ability (number of culms):

1 = 10 OR LESS (Belle Patna)

2 = 11 - 20 (Bluebonnet)

3 = ABOVE 20 (Century Patna)

1

Strength:

1 = STURDY (Starbonnet)

2 = INTERMEDIATE (Belle Patna)

3 = WEAK

4. LEAF BLADE (First Leaf Below Flag Leaf):

3 8

CM. LENGTH

1 4

MM. WIDTH

2

Color:

1 = PALE GREEN (Starbonnet)

2 = MEDIUM GREEN (Bluebelle)

3 = DARK GREEN (Calrose)

4 = PURPLE

5 = RED

6 = OTHER (Specify)

1

Pubescence:

1 = GLABROUS

2 = INTERMEDIATE

3 = PUBESCENT

1

Flag Leaf Angle:

1 = HORIZONTAL

2 = ASCENDING

3 = ERECT

2 8

CM. LENGTH OF FLAG LEAF (Booting Stage)

1 3

MM. WIDTH (widest point) OF FLAG LEAF (Booting Stage)

5. LEAF SHEATH (First Leaf Below Flag Leaf):

2

Ligule Length:

1 = NONE

2 = 20 MM. OR LESS

3 = 21 - 34 MM.

4 = MORE THAN 34 MM.

Color:

2

SHEATH (Outside)

1

COLLAR

4

SHEATH (Inside)

1

LIGULE

1 = COLORLESS

2 = GREEN

3 = RED

4 = PURPLE

5 = OTHER (Specify)

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6. PANICLE:

☐ 1 Type: 1 = OPEN 2 = INTERMEDIATE 3 = COMPACT ☐ 2 Habit: 1 = DROOPING 2 = INTERMEDIATE 3 = ERECT

☐ 2 ☐ 5 CM. LENGTH ☐ 3 Exsertion: 1 = LESS THAN 90% 2 = 90 - 99%
3 = 100% EXSERTION

7. SPIKELET:

☐ 4 Stigma Color: 1 = COLORLESS (White) 2 = YELLOW 3 = PURPLE 4 = RED

8. LEMMA AND PALEA:

☐ 0 ☐ 5 Color at Maturity

☐ 0 ☐ 5 Apiculus color at maturity

☐ 0 ☐ 8 Apiculus color at anthesis

01 = COLORLESS (White) 02 = GREEN 03 = YELLOW
04 = TAWNY 05 = STRAW 06 = GOLD
07 = BROWN FURROWS 08 = RED 09 = PURPLE
10 = PIEBALD 11 = BLACK 12 = OTHER (Specify) _____

☐ 1 Pubescence: 1 = GLABROUS 2 = PUBESCENT ONLY ON LEMMA KEEL 3 = PUBESCENT

☐ 1 Awn: 1 = AWNLESS 2 = TERMINAL SPIKELETS AWNED 3 = AWNED AND AWNLESS 4 = ALL SPIKELETS AWNED

☐ 0 ☐ 0 MM. AWN MAXIMUM LENGTH

9. SEED:

☐ 2 Non-pigmented coat (Pericarp) ("Brown Rice" color): 1 = LIGHT 2 = MEDIUM 3 = DARKER

☐ 4 Pigmented coat (Pericarp): 1 = GOLD 2 = PURPLE 3 = RED 4 = BROWN 5 = SPECKLED BROWN

☐ 1 Scent: 1 = NONSCENTED (Common) 2 = LIGHTLY SCENTED (Sadri) 3 = SCENTED (Popcorn aroma - Della)

☐ 1 Endosperm: 1 = NON-WAXY (common) 2 = WAXY (glutinous) ☐ 1 Endosperm: 1 = TRANSLUCENT, FEW CHALKY SPOTS
2 = CHALKY GERM TIP 3 = WHITE BELLY
4 = LARGE CHALKY CORE 5 = OPAQUE

☐ 2 Shattering (Threshability): 1 = DIFFICULT THRESHING (Conway) 2 = THRESHES READILY 3 = SHATTERS

☐ 1 Dormancy: 1 = LOW (0 days) 2 = MEDIUM (30 days) 3 = HIGH (90 days or more)

10. GRAIN:

☒ 3 Paddy shape (length/width Ratio): 1 = SHORT (less than 2.2:1) 2 = MEDIUM (2.2:1 to 3.4:1) 3 = LONG (greater than 3.4:1)

MEASUREMENTS:

Grain Form	Length (mm.)	Width (mm.)	Thickness (mm.)	L/W Ratio	1000 Grains (Grams)
Paddy	<input type="checkbox"/> 0 <input type="checkbox"/> 8 <input type="checkbox"/> 5	<input type="checkbox"/> 2 <input type="checkbox"/> 5	<input type="checkbox"/> 2 <input type="checkbox"/> 0	<input type="checkbox"/> 3 <input type="checkbox"/> 4	<input type="checkbox"/> 2 <input type="checkbox"/> 0 <input type="checkbox"/> 0
Brown	<input type="checkbox"/> 0 <input type="checkbox"/> 7 <input type="checkbox"/> 0	<input type="checkbox"/> 2 <input type="checkbox"/> 1	<input type="checkbox"/> 1 <input type="checkbox"/> 9	<input type="checkbox"/> 3 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 6 <input type="checkbox"/> 3
Milled	<input type="checkbox"/> 0 <input type="checkbox"/> 7 <input type="checkbox"/> 0	<input type="checkbox"/> 2 <input type="checkbox"/> 0	<input type="checkbox"/> 1 <input type="checkbox"/> 8	<input type="checkbox"/> 3 <input type="checkbox"/> 5	<input type="checkbox"/> 1 <input type="checkbox"/> 4 <input type="checkbox"/> 5

MILLING QUALITY

☐ 2 ☐ 9 % HULLS ☐ 7 ☐ 1 % TOTAL MILLED RICE

11. RESISTANCE TO LOW TEMPERATURE:

☐ Germination & Seedling vigor: 1 = LOW (Bluebelle) 2 = MEDIUM (Nato) 3 = HIGH (Caloro)

☐ Flowering (Spikelet fertility): 1 = LOW (Bluebelle) 2 = MEDIUM (Caloro) 3 = HIGH (Calrose)

12. RESISTANCE TO:

☐ Salinity: 1 = LOW (Bluebonnet) 2 = MEDIUM (Blue Rose) 3 = HIGH

☐ Alkalinity: 1 = LOW (Bluebelle) 2 = MEDIUM (Dawn) 3 = HIGH (Arkrose)

13. RESPONSE TO PHOTOPERIOD:

☐ 1 1 = NON-SENSITIVE (Belle Patna) 2 = WEAKLY SENSITIVE (Blue Rose) 3 = STRONGLY SENSITIVE (Caloro)



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14. PYRICULARIA ORYZAE RESISTANCE (International races found under References, items 2 and 4 below.)

(0 = Not Tested; 1 = Susceptible; 2 = Resistant):

GROUP	IA	IB				IC			ID				IE		IG		IH				
NUMBER	109	1	33	49	54	1	17	19	1	8	13	14	1	3	1	2	1				
RESISTANCE																					

15. DISEASE RESISTANCE (0 = Not Tested; 1 = Susceptible; 2 = Resistant):

<input type="checkbox"/> CERCOSPORA ORYZAE	<input type="checkbox"/> ENTYLOMA ORYZAE	<input type="checkbox"/> FUSARIUM PANICLE BLIGHT
<input type="checkbox"/> HELMINTHOSPORIUM ORYZAE	<input type="checkbox"/> HOJA BLANCA VIRUS	<input type="checkbox"/> LEPTOSPHAERIA SALVINII
<input type="checkbox"/> PYTHIUM SEEDLING BLIGHT	<input type="checkbox"/> RHIZOCTONIA ORYZAE	<input type="checkbox"/> STRAIGHTENED
<input type="checkbox"/> TILLETIA BARCLAYANA	<input type="checkbox"/> WHITE TIP NEMATODE	<input type="checkbox"/> OTHER (Specify) _____

16. INSECT RESISTANCE (0 = Not Tested; 1 = Susceptible; 2 = Resistant)

<input type="checkbox"/> GRASS HOPPER	<input type="checkbox"/> LEAF HOPPER	<input type="checkbox"/> RICE HISPA
<input type="checkbox"/> RICE MIDGE	<input type="checkbox"/> STEM BORER	<input type="checkbox"/> STINK BUG
<input type="checkbox"/> SWARM CATERPILLAR	<input type="checkbox"/> WATER WEEVIL	<input type="checkbox"/> OTHER (Specify) _____

17. INDICATE A VARIETY WHICH MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Tillering	Starbonnet	Seed Shape	Starbonnet
Lodging	Starbonnet	Endosperm Transp.	Bluebonnet
Leaf Angle		Milling Quality	Starbonnet
Leaf Color		Cook & Proc. Quality	Starbonnet

18. GIVE THE FOLLOWING AVERAGE DATA FOR SUBMITTED AND A SIMILAR VARIETY

VARIETY	PARBOIL CANNING STABILITY (% Loss)	PROTEIN * (%)	AMYLOSE ** (%)	ALKALI REACTION ***		GELATINIZATION TEMPERATURE (°C)
				1.7	2.0	
SUBMITTED			24.0	2.7		
SIMILAR			25.3	2.5		
NAME OF SIMILAR VARIETY			Starbonnet	SBNT		

*Hulled Rice - Dry Wt.

**Milled Rice 11 - 12% Moisture

***Average spreading value in 1.7% and 2.0% KOH Solution.

REFERENCES

1. C. R. Adair et al, 1972. Rice in the United States: Varieties and Production. USDA Handbook No. 289 (Rev.), 124 pp.
2. J. G. Atkins, et al, 1967. An International Set of Rice Varieties for Differentiating Race of Pyricularia Oryzae. Phytopath. 57:297-301.
3. Te-Tzu Chang, 1965. The Morphology and Varietal Characteristics of the Rice Plant. IRRI Los Banos, Philippines Tech. Bulletin 4.
4. K. C. Ling and S. H. Ou, 1969. Standardization of the International Race Numbers of Pyricularia Oryzae. Phytopath. 59:339-342.
5. B. D. Webb et al, 1968. Characteristics of Rice Varieties in the USDA Collection. Crop Sci. 8:361-365.
6. Nickerson's or any recognized color fan may be used to determine plant colors of the described variety.

COMMENTS:

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EXHIBIT D

ADDITIONAL DESCRIPTION OF VARIETY

AS1010-E (Bellevue) is a straw hull colored, long grain, medium late maturity, rice with excellent cooking and milling qualities, in the Bluebonnet 50 tradition. It has good stalk quality, excellent seedling vigor, and makes high yields of good quality rice. AS1010-E (Bellevue) grows slightly taller than Starbonnet, the leading long-grain rice in Louisiana, Arkansas, and Mississippi, but stands as well and gives consistently higher yields.

